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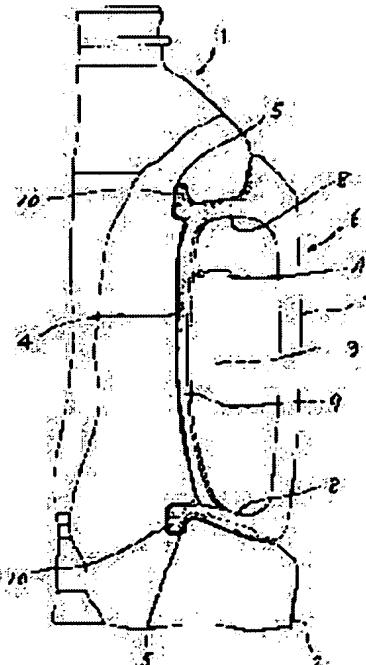
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(54) SYNTHETIC RESIN BOTTLE WITH GRIP

(57)Abstract:

PROBLEM TO BE SOLVED: To eliminate necessity of classifying collection of refuse by orientation blow molding a PET bottle body with a PET grip as an insert material without difficulty.

SOLUTION: A surface part of an insert A of a part in contact with a bottle body 1 of a PET grip 6 to become an insert material of the orientation blow molded body 1 made of PET of this bottle is thermally crystallized so that crystallization degree is 30 to 70% or preferably 40 to 60%. Thus, sliding of steady fitting of the grip 6 in the body 1 at the time of orientation blow molding the body 1 is smoothened. And, heat resistance of the grip 6 itself is sufficiently enhanced. Then, generation of incorrect deformation of the body 1 by heat at the time of orientation blow molding the body 1 is prevented. And, the grip 6 is effectively and rigidly assembled with the body 1.



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CLAIMS

[Claim(s)]

[Claim 1] Handle (6) It considers as insertion material and is a bottle body made of polyethylene terephthalate resin (1). By carrying out drawing blow molding Said handle (6) Bottle body (1) It sets to the bottle made of synthetic resin with a handle which carries out assembly immobilization, and is said handle (6). Said bottle body (1) While considering as the same product made of polyethylene terephthalate resin Said bottle body (1) Drawing shaping is preceded and it is this bottle body (1). It is this bottle body (1) at the time of drawing blow molding. The insertion section which contacts (A) Heat crystallization processing should be performed to the surface part. Furthermore, it is said insertion section (A). It is the bottle made of synthetic resin with a handle which made desirably the degree of crystallinity of heat crystallization processing of a surface part 40 - 60% 30 to 70%.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]**[0001]**

[Field of the Invention] This invention relates to a bottle body at the large-sized bottle made of synthetic resin with a handle which carried out assembly immobilization of the handle firmly by carrying out biaxial drawing blow molding of the bottle body made of polyethylene terephthalate resin (it being hereafter described as PET) by making the bottle made of synthetic resin with a handle, especially a handle into insertion material.

[0002]

[Description of the Prior Art] It is used very so much for the reasons that the bottle made of synthetic resin with a handle constituted by carrying out biaxial drawing blow molding of the bottle body made from PET by making into insertion material the handle by which injection molding was beforehand carried out to the fixed configuration can offer a large-sized bottle cheaply, nil why handling is convenient, etc., and is consumed.

[0003] Since the bottle with the handle made from PET old [this] makes that handle polypropylene resin and the product made of polyethylene resin from the reason of a moldability or a price side, to make a handle into the same product made from PET as a bottle body is strongly desired from the point [collection / by type / for processing of trash and playback] of handling.

[0004] In JP,6-298253,A which is the conventional technique which fills this want The handle attached in the bottle made of polyester resin is made into the product made of polyester resin. Burst generating of a bottle body by making 10% or more of degree of crystallinity crystallize the stop section corresponding to the part which touches the bottle of this handle, and making a handle into the same product made of polyester resin as a bottle body by this, It makes it possible to prevent and have generating of heat deformation of the handle itself, and to fabricate with a bottle body, a handle, and the same construction material.

[0005]

[Problem(s) to be Solved by the Invention] However, if it was in the above-mentioned conventional technique, since it aimed at crystallization of the stop section on a knob which attains with [to a bottle body on a knob / which cannot be broken away] a group directly, there was a problem referred to as that drawing shaping of the part with a bundle handicraft of a bottle body is not necessarily attained good.

[0006] Moreover, when only the stop section on a knob is crystallized, there is a problem which says that there is a possibility that the stop function of this stop section may fall according to the heat deformation for the bundle hand part which adjoins this stop section.

[0007] furthermore, the badness of slipping since the degree of crystallinity of the stop section on a knob is not set up with 10% or more, in case degree of crystallinity is 30% or less and thermal resistance -- low -- moreover, an object in case degree of crystallinity is 70% or more -- there was a problem which says that the serious inconvenience which makes implementation of buildup of sexual brittleness etc. impossible occurs.

[0008] Then, it was originated that the trouble in the above-mentioned conventional technique should be canceled, and this invention aims at making to attain carrying out drawing blow molding of the bottle body made from PET, using the handle made from PET as insertion material convenient into a technical technical problem, having it, and offering a bottle [container / regeneration / waste

treatment and] with the handle made from PET simply and good.

[0009]

[Means for Solving the Problem] By the means of this invention which solves the above-mentioned technical problem making a handle insertion material, and carrying out drawing blow molding of the bottle body made from PET It is the bottle made of synthetic resin with a handle which carries out assembly immobilization of the handle at a bottle body, Making a handle into the same product made from PET as a bottle body, the thing for which heat crystallization processing should similarly be performed to the surface part of the insertion section which contacts a bottle body in advance of drawing shaping of a bottle body in a handle at the time of the drawing blow molding of this bottle body, It is in making desirably the degree of crystallinity of heat crystallization processing of the surface part of the insertion section on a knob into 40 - 60% 30 to 70%.

[0010] Since it is carrying out heat crystallization processing of the surface part of the insertion section which is the part directly heated by this bottle body part while carrying out sliding contact of the same handle made from PET as a bottle body to the part which contacts this bottle body at the time of the drawing blow molding of a bottle body, i.e., the bottle body part which carries out drawing deformation, it carries out the slipping variation rate of the bottle body part which carries out drawing deformation smoothly, and, thereby, makes good drawing deformation of this bottle body part attain.

[0011] moreover, since the thermal resistance of the insertion section is raised by crystallization processing, thereby, a handle [as opposed to / the insertion section does not carry out heat deformation with heating by contact into the bottle body part which carries out drawing deformation, and / a bottle body] is firm -- it grapples and reinforcement is secured.

[0012] Since the degree of crystallinity of heat crystallization processing of the surface part of the insertion section on a knob is set up to 30 - 70%, while being able to acquire certainly smooth slipping between the bottle body parts which carry out drawing deformation, the thermal resistance of the whole insertion section can be raised.

[0013] In addition, if it becomes difficult to acquire certainly smooth slipping between the bottle body parts which carry out drawing deformation to the degree of crystallinity of the surface part of the insertion section on a knob being 30% or less and the degree of crystallinity of the surface part of the insertion section becomes 70% or more, the whole insertion section will become weak and shock resistance on a knob will fall.

[0014] Moreover, without slipping between the bottle body parts which carry out drawing deformation becoming very smooth, and being able to obtain a good moldability, and producing mechanical brittleness for the whole insertion section, if the degree of crystallinity of the surface part of the insertion section on a knob is made into 40 - 60%, thermal resistance can fully be raised, and thereby, it is stabilized and can attain with [with a firm handle / to a bottle body] a group.

[0015]

[Example] Hereafter, one example of this invention is explained, referring to drawing 1 - drawing 12 . Drawing 1 - drawing 3 show the 1st example of this invention, a tripod plate 8 is ***** (ed) and it grapples between the points of this tripod plate 8 with both groups, it grapples from the front vertical both ends of the vertical board-like handle plate 7, a beam plate 9 is formed in the shape of erection, it grapples [upper], and the top-face point of a tripod plate 8 and the bottom grapple, the handle 6 which is an injection-molded product made from PET protrudes, and the underside point of a tripod plate 8 constitutes the fitting protruding piece 10.

[0016] Although this handle 6 clinches the crevice 3 for assembly formed in the backside [the upper part] of the drum section 2 of a bottle body 1, the engagement crevice 4 where the crevice 3 for assembly of this bottle body 1 is clinched with some tripod plates 8 with both groups of a handle 6, and a beam plate 9 engages with it, and the fitting hole 5 into which the fitting protruding piece 10 of a handle 6 fits are fabricated.

[0017] So, in the case of this 1st example, as the insertion section A of a handle 6 is shown in drawing 3 , with the vertical both ends of the front face of the handle plate 7, and the tripod plate 8 with vertical both groups, it grapples, and consists of a beam plate 9 and both fitting protruding piece 10, and heat crystallization processing of that surface part is carried out.

[0018] In this 1st example, since it grapples, heat crystallization processing of the beam plate 9 is

carried out and that thermal resistance is raised, it grapples and the condition with a fitting group of the fitting hole 5 and the fitting protruding piece 10 by heat deformation of a beam plate 9 does not deteriorate, it was firmly stabilized with [to a bottle body 1 / of a handle 6] the group, and it is maintained.

[0019] Drawing 4 - drawing 7 show the 2nd example of this invention, the tripod plate 8 with a group is ******(ed), respectively from the both-sides edge of the front vertical both ends of the vertical board-like handle plate 7, the upper and lower sides of the same side grapple, between the heads of a tripod plate 8 is grappled, it is a beam plate 9 and the front face and mutual opposed face of the beam plate 9 with both groups constitute [it connects so that the whole may become abbreviation ring-like and / a handle 6 protrudes and] the fitting protruding piece 10.

[0020] Although this handle 6 clinches the crevice 3 for assembly formed in the backside [the upper part] of the drum section 2 of a bottle body 1, the engagement crevice 4 where the tripod plate 8 with each class of a handle 6 and the beam plate 9 with both groups are engaged, and each fitting hole 5 into which each fitting protruding piece 10 of a handle 6 fits are fabricated by the crevice 3 for assembly of this bottle body 1.

[0021] So, in the case of this 2nd example, as the insertion section A of a handle 6 is shown in drawing 6 and drawing 7 , it consists of the vertical both ends of the front face of the handle plate 7, a tripod plate 8 with each class, a beam plate 9 with both groups, and each fitting protruding piece 10, and heat crystallization processing of that surface part is carried out.

[0022] In this 2nd example, since heat crystallization processing of the tripod plate 8 with each class and the beam plate 9 with both groups is carried out and that thermal resistance is raised, by there being nothing to depend on heat deformation of the tripod plate 8 with each class and the beam plate 9 with both groups and that it holds and employee-like a condition with an engagement group deteriorates, it was firmly stabilized with [to a bottle body 1 / of a handle 6] the group, and it is maintained.

[0023] Drawing 8 - drawing 10 show the 3rd example of this invention, the shape of a ring grapples between the heads of the tripod plate 8 with both groups, the tripod plate 8 with a group is ******(ed) from the front vertical ends of the vertical board-like handle plate 7, respectively, and it is constituted [a handle 6 forms beam plates 9 successively in the shape of erection, and].

[0024] Although this handle 6 clinches the crevice 3 for assembly formed in the backside [the upper part] of the drum section 2 of a bottle body 1, the engagement crevice 4 which consists of a part for the fluting part with which the tripod plate 8 with both groups of a handle 6 engages, and the ring-like slot into which is clinched and a beam plate 9 fits is formed in the crevice 3 for assembly of this bottle body 1.

[0025] So, in the case of this 3rd example, as the insertion section A of a handle 6 is shown in drawing 9 and drawing 10 , it grapples with the tripod plate 8 with both groups, and consists of beam plates 9, and heat crystallization processing of that surface part is carried out.

[0026] In this 3rd example, it was firmly stabilized with the group of the handle [as opposed to / since it grapples, heat crystallization processing of the beam plate 9 is carried out and that thermal resistance is raised, can hold, can prevent certainly this generating of degradation grapple and according to heat deformation of holding power of the letter of a lump grapple and according to a beam plate 9, and / a bottle body 1] 6 which carried out the shape of a ring, and it is maintained.

[0027] Drawing 11 - drawing 12 show the 4th example of this invention, it grapples [upper] and the top-face head of a tripod plate 8 and the bottom grapple, the tripod plate 8 with a group is ******(ed) from the front vertical both ends of the vertical board-like handle plate 7, respectively, and each at the head of an underside of a tripod plate 8 constitutes [a handle 6 protrudes and] the fitting protruding piece 10.

[0028] Although this handle 6 clinches the crevice 3 for assembly formed in the backside [the upper part] of the drum section 2 of a bottle body 1, the engagement crevice 4 of the shape of a fluting with which the tripod plate 8 with both groups of a handle 6 engages, and the fitting hole 5 into which each fitting protruding piece 10 fits are formed in the crevice 3 for assembly of this bottle body 1.

[0029] So, in the case of this 4th example, as the insertion section A of a handle 6 is shown in drawing 12 , it consists of the front up edges, and the tripod plates 8 with both groups and the fitting

protruding pieces 10 of the handle plate 7, and heat crystallization processing of that surface part is carried out.

[0030] In this 4th example, since heat crystallization processing of the tripod plate 8 with both groups is carried out and that thermal resistance is raised, the handle 6 to a bottle body 1 by carrying out heat deformation can grapple in this direction that is clinched and a tripod plate 8 approaches relatively, strong degradation can be prevented, it was firmly stabilized with [to a bottle body 1 / of a handle 6] the group, and it is maintained.

[0031]

[Effect of the Invention] Since this invention has the above-mentioned composition, the effectiveness taken below is done so. Since heat crystallization processing of the surface part of the insertion section of the handle which is the part which the bottle body part which carries out drawing deformation at the time of the drawing blow molding of a bottle body contacts was carried out, between the bottle body parts in which a handle carries out drawing deformation, smooth slipping can be acquired certainly, and it can have it, and can grapple as the handle of a bottle body, and insertion deformation of a part can be attained certainly and good.

[0032] Since the insertion section of the handle by which heat crystallization is carried out in a surface part is all of parts that contact a bottle body at the time of the drawing blow molding of a bottle body, all of parts in contact with a bottle body on a knob become that to which thermal resistance was raised by this heat crystallization processing, and can prevent certainly generating of the inconvenience which this says deteriorates with [of a bottle body and a handle] an engagement group according to heat deformation of the handle itself.

[0033] Since crystallinity of heat crystallization processing of the surface part of the insertion section on a knob was made into 30 - 70% of range, while being able to acquire smooth slipping between the bottle body parts which carry out drawing deformation with the handle at the time of the drawing blow molding of a bottle body, thermal resistance on a knob can fully be raised, and mechanical strength with a still more sufficient handle can be secured.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The whole side elevation showing the 1st example of this invention.

[Drawing 2] The important section vertical section enlarged drawing of the example shown in **drawing 1**.

[Drawing 3] The whole side elevation showing the structure of the example shown in **drawing 1** on a knob.

[Drawing 4] The whole side elevation showing the 2nd example of this invention.

[Drawing 5] The important section flat section of the example shown in **drawing 4**.

[Drawing 6] The whole side elevation showing the structure of the example shown in **drawing 4** on a knob.

[Drawing 7] The top view of the handle shown in **drawing 6**.

[Drawing 8] The important section side elevation showing the 3rd example of this invention.

[Drawing 9] The whole side elevation showing the structure of the example shown in **drawing 8** on a knob.

[Drawing 10] The front view of the handle shown in **drawing 9**.

[Drawing 11] The important section side elevation in which showing the 4th example of this invention and through which it traveled in part.

[Drawing 12] The whole perspective view showing the structure of the example shown in **drawing 11** on a knob.

[Description of Notations]

1 ; Bottle Body

2 ; Drum Section

3 ; Crevice for Assembly

4 ; Engagement Crevice

5 ; Fitting Hole

6 ; Handle

7 ; Handle Plate

8 ; It Grapples and is Tripod Plate.

9 ; It Grapples and is Beam Plate.

10; Fitting protruding piece

A ; Insertion section

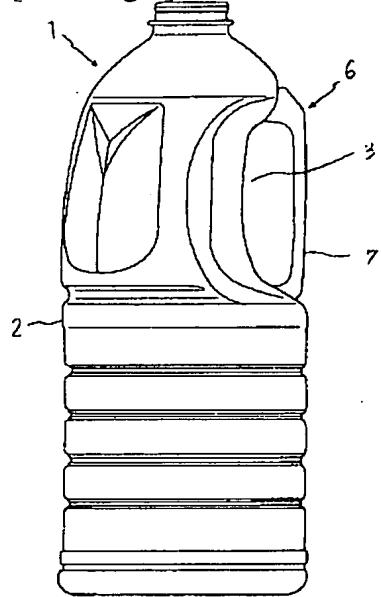
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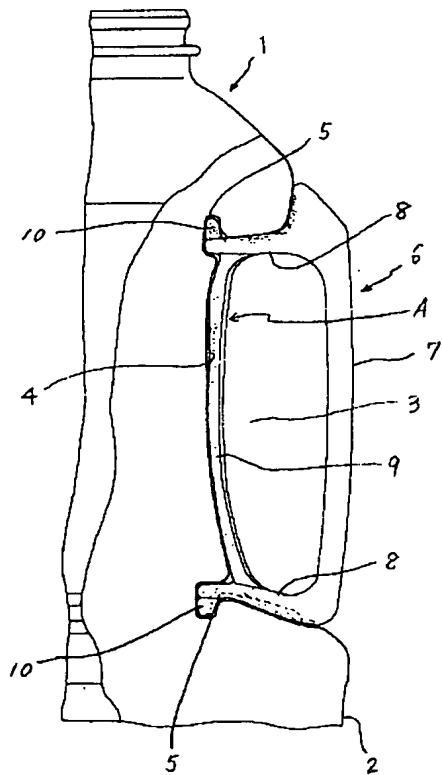
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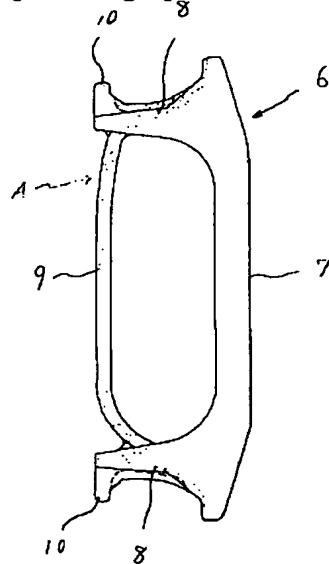
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DRAWINGS

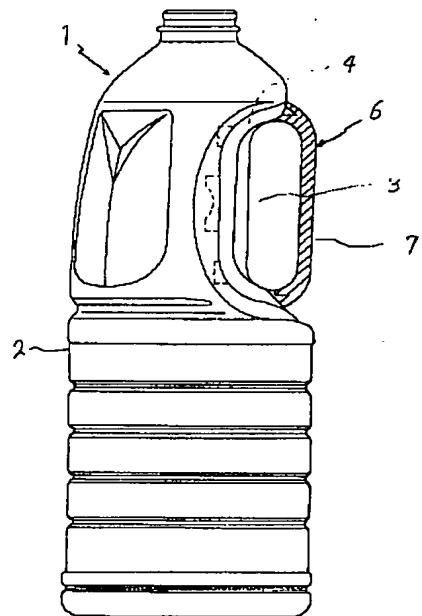
[Drawing 1]**[Drawing 2]**



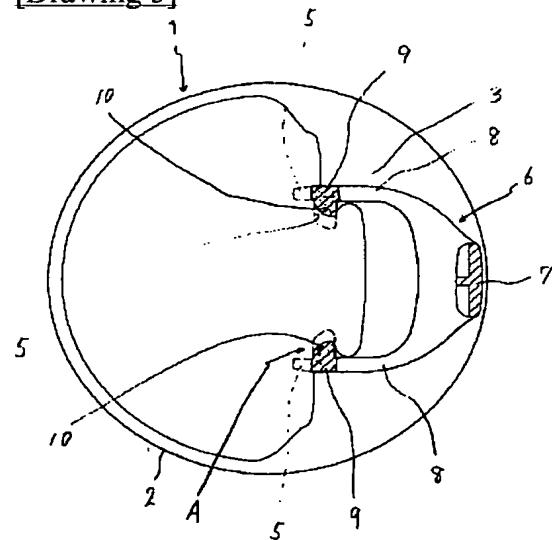
[Drawing 3]



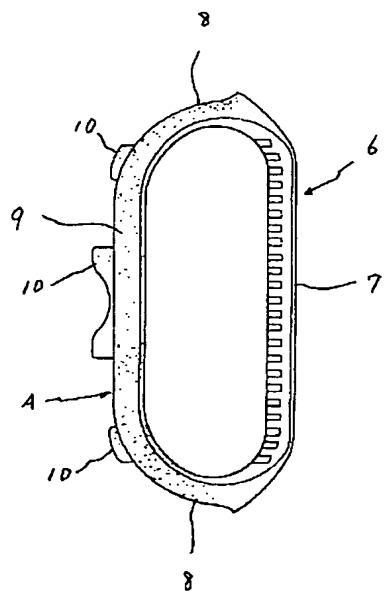
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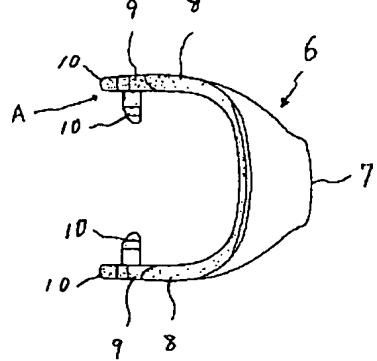
[Drawing 5]



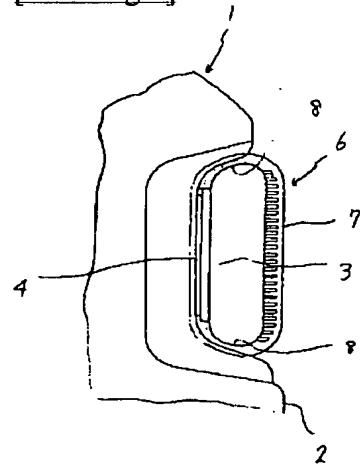
[Drawing 6]



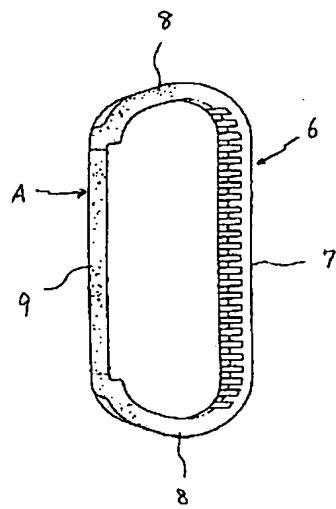
[Drawing 7]



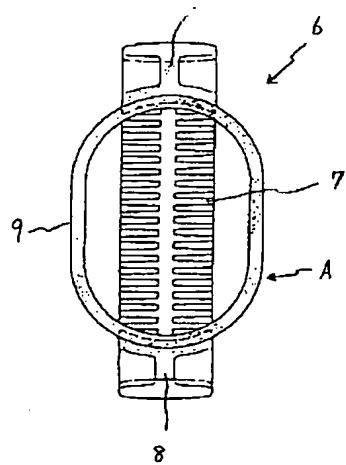
[Drawing 8]



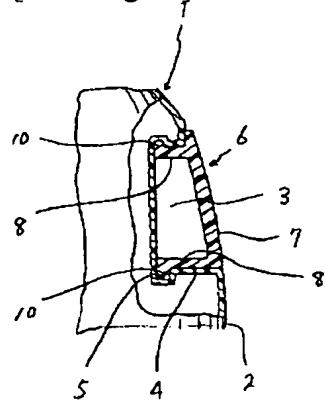
[Drawing 9]



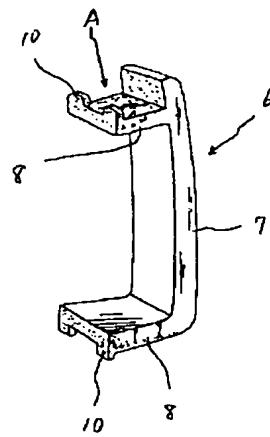
[Drawing 10]



[Drawing 11]



[Drawing 12]



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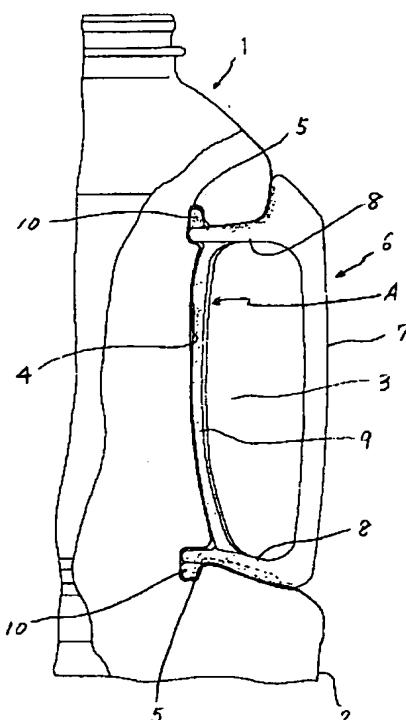
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(54)【発明の名称】 把手付き合成樹脂製壙体

(57)【要約】

【課題】 P E T製壙本体を、 P E T製の把手をインサート材として支障なく延伸ブロー成形し、分別回収を要さないP E T製壙体を簡単に提供する。

【解決手段】 P E T製の延伸ブロー成形される壙本体1のインサート材となるP E T製把手6の、壙本体1に接触する部分であるインサート部Aの表面部分に熱結晶化処理を施し、この熱結晶化処理により、壙本体1の延伸ブロー成形時の壙本体1と把手6との安臥の滑りを円滑にすると共に、把手6自体の耐熱性を充分に高め、壙本体1の延伸ブロー成形時の熱による不正変形の発生を防止して、壙本体1に対する把手6の確実で強固な組付けを達成する。



【特許請求の範囲】

【請求項1】 把手(6)をインサート材として、ポリエチレンテレフタレート樹脂製の壇本体(1)を延伸ブロー成形することにより、前記把手(6)を壇本体(1)に組付け固定する把手付き合成樹脂製壇体において、前記把手(6)を、前記壇本体(1)と同じポリエチレンテレフタレート樹脂製とすると共に、前記壇本体(1)の延伸成形に先立って、該壇本体(1)の延伸ブロー成形時に該壇本体(1)に接触するインサート部(A)の表面部分に熱結晶化処理を施したものとし、さらに前記インサート部(A)の表面部分の熱結晶化処理の結晶化度を、30～70%、望ましくは40～60%とした把手付き合成樹脂製壇体。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】 本発明は、把手付き合成樹脂製壇体、特には把手をインサート材としてポリエチレンテレフタレート樹脂（以下、P E Tと記す）製の壇本体を2軸延伸ブロー成形することにより、壇本体に把手を強固に組付け固定した大型の把手付き合成樹脂製壇体に関するものである。

【0002】

【従来の技術】 予め一定形状に射出成形された把手をインサート材として、P E T製壇本体を2軸延伸ブロー成形して構成される把手付き合成樹脂製壇体が、安価に大型壇容器を提供できること、取扱いが便利であること等の理由によりきわめて多量に利用され消費されている。

【0003】 この従前のP E T製把手付き壇体は、その把手を、成形性や価格面の理由からポリプロピレン樹脂やポリエチレン樹脂製としているため、廃棄物の処理および再生のための分別回収の取扱いの点から、把手を壇本体と同じP E T製とすることが強く望まれている。

【0004】 この要望を満たす従来技術である特開平6-298253号公報には、ポリエチレン樹脂製の壇体に取付けられる把手をポリエチレン樹脂製とし、この把手の壇体に接する部分に対応する係止部を、結晶化度10%以上に結晶化させるものとし、これにより把手を壇本体と同じポリエチレン樹脂製とすることによる、壇本体の破裂発生と、把手自体の熱変形の発生とを防止し、もって壇本体と把手とお同一材質で成形することを可能としている。

【0005】

【発明が解決しようとする課題】 しかしながら、上記した従来技術にあっては、把手の壇本体に対する離脱不能な組付けを直接的に達成する把手の係止部の結晶化を主眼としているので、壇本体の把手組付け部分の延伸成形が必ずしも良好に達成されるとは限らないと云う問題があった。

【0006】 また、把手の係止部だけを結晶化した場合、この係止部に隣接する把手部分の熱変形により、こ

の係止部の係止機能が低下する恐れがあると云う問題がある。

【0007】 さらに、把手の係止部の結晶化度を10%以上としか設定していないので、結晶化度が30%以下の場合の滑りの悪さ、および耐熱性の低さ、また結晶化度が70%以上の場合の物性的な脆さの増大等の実施を不可能とする重大な不都合が発生すると云う問題があった。

【0008】 そこで、本発明は、上記した従来技術における問題点を解消すべく創案されたもので、P E T製壇本体を、P E T製把手をインサート材として延伸ブロー成形することを支障なく達成することを技術的課題とし、もって廃棄物処理および再生処理の容器なP E T製把手付き壇体を簡単にかつ良好に提供することを目的とする。

【0009】

【課題を解決するための手段】 上記課題を解決する本発明の手段は、把手をインサート材として、P E T製の壇本体を延伸ブロー成形することによって、把手を壇本体に組付け固定する把手付き合成樹脂製壇体であること、把手を、壇本体と同じP E T製とすること、同じく把手を、壇本体の延伸成形に先立って、この壇本体の延伸ブロー成形時に壇本体に接触するインサート部の表面部分に熱結晶化処理を施したものとしておくこと、把手のインサート部の表面部分の熱結晶化処理の結晶化度を、30～70%、望ましくは40～60%とすること、にある。

【0010】 壇本体と同じP E T製の把手は、壇本体の延伸ブロー成形時に、この壇本体に接触する部分、すなわち延伸変形する壇本体部分と滑り接触すると共に、この壇本体部分により直接加熱される部分であるインサート部の表面部分を熱結晶化処理しているので、延伸変形する壇本体部分を円滑に滑り変位させ、これによりこの壇本体部分の良好な延伸変形を達成させる。

【0011】 また、結晶化処理によりインサート部の耐熱性が高められているので、延伸変形する壇本体部分との接触による加熱によりインサート部が熱変形することができなく、これにより壇本体に対する把手の強固な組付き強度が確保される。

【0012】 把手のインサート部の表面部分の熱結晶化処理の結晶化度を30～70%に設定しているので、延伸変形する壇本体部分との間の円滑な滑りを確実に得ることができると共に、インサート部全体の耐熱性を高めることができる。

【0013】 なお、把手のインサート部の表面部分の結晶化度が30%以下であると、延伸変形する壇本体部分との間の円滑な滑りを確実に得るのが難しくなり、またインサート部の表面部分の結晶化度が70%以上となると、インサート部全体が脆くなり、把手の耐衝撃性が低下する。

【0014】また、把手のインサート部の表面部分の結晶化度を40～60%とすると、延伸変形する壩本体部分との間の滑りがきわめて円滑となって、良好な成形性を得ることができ、またインサート部全体を、機械的な脆さを生じることなく、充分に耐熱性を高めることができ、これにより壩本体に対する把手の強固な組付けを安定して達成することができる。

【0015】

【実施例】以下、本発明の一実施例を図1～図12を参照しながら説明する。図1～図3は、本発明の第1の実施例を示すもので、P E T 製射出成形品である把手6は、縦板状の把手板7の前面上下両端部から組付き脚板8を起立設し、この両組付き脚板8の先端部間に組付き梁板9を架設状に設け、上の組付き脚板8の上面先端部、および下の組付き脚板8の下面先端部に嵌合突片10を突設して構成されている。

【0016】この把手6は、壩本体1の胴部2の上部後側に形成された組付け用凹部3に組付くが、この壩本体1の組付け用凹部3には、把手6の両組付き脚板8の一部と組付き梁板9が係合する係合凹部4と、把手6の嵌合突片10が嵌合する嵌合穴部5とが成形されている。

【0017】それゆえ、この第1の実施例の場合、把手6のインサート部Aは、図3に示すように、把手板7の前面の上下両端部と、上下両組付き脚板8と、組付き梁板9と、そして両嵌合突片10とから構成され、その表面部分は熱結晶化処理されている。

【0018】この第1の実施例において、組付き梁板9が熱結晶化処理されて、その耐熱性が高められているので、組付き梁板9の熱変形による嵌合穴部5と嵌合突片10との嵌合組付き状態が劣化することなく、壩本体1に対する把手6の組付けが強固に安定した維持される。

【0019】図4～図7は、本発明の第2の実施例を示すもので、把手6は、縦板状の把手板7の前面上下両端部の両側端からそれぞれ組付き脚板8を起立設し、同じ側の上下の組付き脚板8の先端間に組付き梁板9で、全体が略リング状となるように連結し、両組付き梁板9の前面、および相互対向面に嵌合突片10を突設して構成されている。

【0020】この把手6は、壩本体1の胴部2の上部後側に形成された組付け用凹部3に組付くが、この壩本体1の組付け用凹部3には、把手6の各組付き脚板8と両組付き梁板9が係合する係合凹部4と、把手6の各嵌合突片10が嵌合する各嵌合穴部5とが成形されている。

【0021】それゆえ、この第2の実施例の場合、把手6のインサート部Aは、図6および図7に示すように、把手板7の前面の上下両端部と、各組付き脚板8と、両組付き梁板9と、そして各嵌合突片10とから構成され、その表面部分は熱結晶化処理されている。

【0022】この第2の実施例において、各組付き脚板

8および両組付き梁板9が熱結晶化処理されて、その耐熱性が高められているので、各組付き脚板8と両組付き梁板9の熱変形による、抱き抱え状の係合組付き状態が劣化することなく、壩本体1に対する把手6の組付けが強固に安定した維持される。

【0023】図8～図10は、本発明の第3の実施例を示すもので、把手6は、縦板状の把手板7の前面上下両端からそれぞれ組付き脚板8を起立設し、両組付き脚板8の先端間にリング状の組付き梁板9を架設状に連設して構成されている。

【0024】この把手6は、壩本体1の胴部2の上部後側に形成された組付け用凹部3に組付くが、この壩本体1の組付け用凹部3には、把手6の両組付き脚板8が係合する縦溝部分と、組付き梁板9が嵌合するリング状溝部分とから成る係合凹部4が形成されている。

【0025】それゆえ、この第3の実施例の場合、把手6のインサート部Aは、図9および図10に示すように、両組付き脚板8と組付き梁板9とから構成され、その表面部分は熱結晶化処理されている。

【0026】この第3の実施例において、リング状をした組付き梁板9が熱結晶化処理されて、その耐熱性が高められているので、この組付き梁板9による抱え込み状の組付き保持力の熱変形による劣化の発生を確実に防止することができ、壩本体1に対する把手6の組付けが強固に安定した維持される。

【0027】図11～図12は、本発明の第4の実施例を示すもので、把手6は、縦板状の把手板7の前面上下両端部からそれぞれ組付き脚板8を起立設し、上の組付き脚板8の上面先端、および下の組付き脚板8の下面先端のそれぞれに嵌合突片10を突設して構成されている。

【0028】この把手6は、壩本体1の胴部2の上部後側に形成された組付け用凹部3に組付くが、この壩本体1の組付け用凹部3には、把手6の両組付き脚板8が係合する縦溝状の係合凹部4と、各嵌合突片10が嵌合する嵌合穴部5とが形成されている。

【0029】それゆえ、この第4の実施例の場合、把手6のインサート部Aは、図12に示すように、把手板7の前面上端部と、両組付き脚板8と嵌合突片10とから構成され、その表面部分は熱結晶化処理されている。

【0030】この第4の実施例において、両組付き脚板8が熱結晶化処理されて、その耐熱性が高められているので、この組付き脚板8が相対的に接近する方向に熱変形することによる、壩本体1に対する把手6の組付け強度の劣化を防止することができ、壩本体1に対する把手6の組付けが強固に安定した維持される。

【0031】

【発明の効果】本発明は上記した構成となっているので、以下に示す効果を奏する。壩本体の延伸プロセス時に、延伸変形する壩本体部分が接触する部分である把

手のインサート部の表面部分を熱結晶化処理したので、把手の延伸変形する壙本体部分との間に円滑な滑りを確実に得ることができ、もって壙本体の把手との組付け部分のインサート変形を確実にかつ良好に達成することができる。

【0032】表面部分を熱結晶化される把手のインサート部は、壙本体の延伸ブロー成形時に、壙本体と接触する部分の全部であるので、把手の壙本体と接触する部分の全部は、この熱結晶化処理により耐熱性が高められたものとなり、これにより把手自体の熱変形により、壙本体と把手との係合組付けが劣化すると云う不都合の発生を確実に防止することができる。

【0033】把手のインサート部の表面部分の熱結晶化処理の結晶化度を30～70%の範囲にしたので、壙本体の延伸ブロー成形時における把手と延伸変形する壙本体部分との間の円滑な滑りを得ることができると共に、把手の耐熱性を充分に高めることができ、さらに把手の充分な機械的強度を確保することができる。

【図面の簡単な説明】

【図1】本発明の第1の実施例を示す、全体側面図。

【図2】図1に示した実施例の、要部縦断拡大図。

【図3】図1に示した実施例の、把手の構造を示す全体側面図。

【図4】本発明の第2の実施例を示す、全体側面図。 * A ; インサート部

* 【図5】図4に示した実施例の、要部平断面図。

【図6】図4に示した実施例の、把手の構造を示す全体側面図。

【図7】図6に示した把手の、平面図。

【図8】本発明の第3の実施例を示す、要部側面図。

【図9】図8に示した実施例の、把手の構造を示す全体側面図。

【図10】図9に示した把手の、正面図。

10 【図11】本発明の第4の実施例を示す、一部縦断した要部側面図。

【図12】図11に示した実施例の、把手の構造を示す全体斜視図。

【符号の説明】

1 ; 壙本体

2 ; 脊部

3 ; 組付け用凹部

4 ; 係合凹部

5 ; 嵌合穴部

6 ; 把手

20 7 ; 把手板

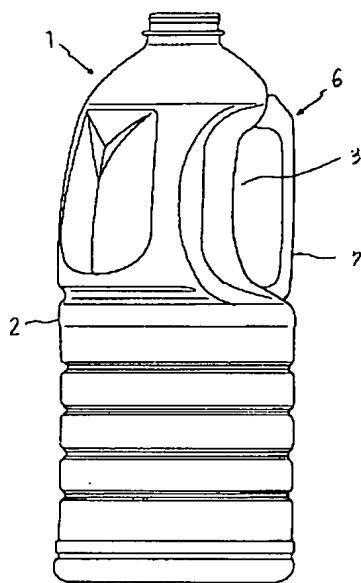
8 ; 組付け脚板

9 ; 組付け梁板

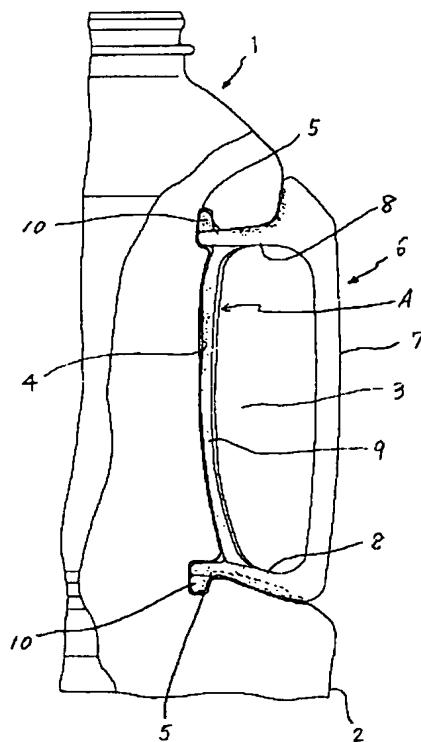
10 ; 嵌合突片

* A ; インサート部

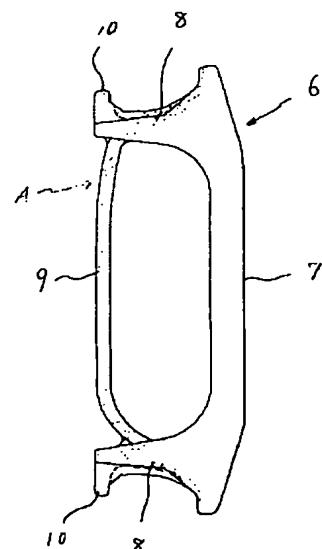
【図1】



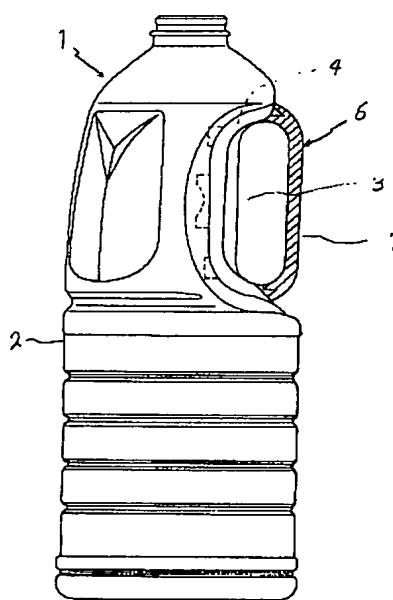
【図2】



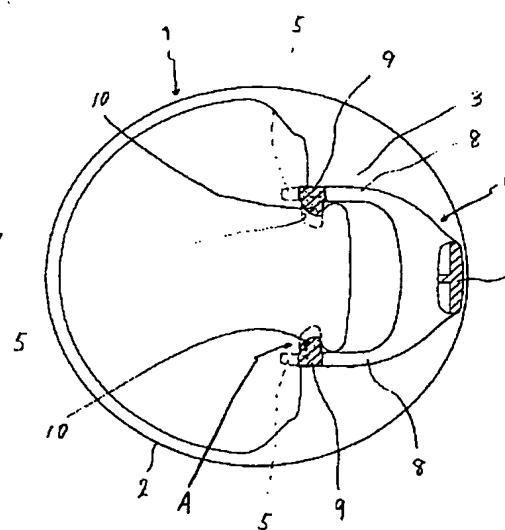
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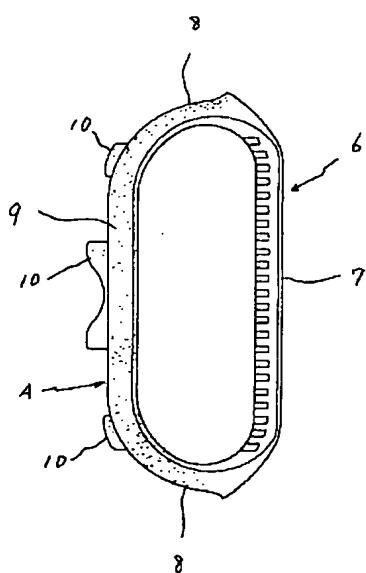
【図4】



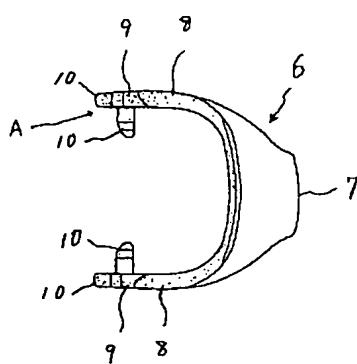
【図5】



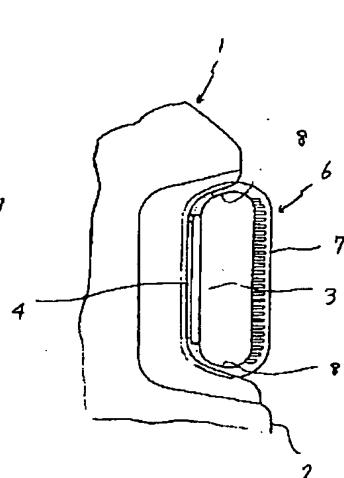
【図6】



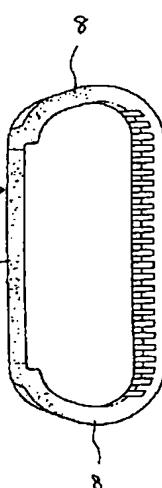
【図7】



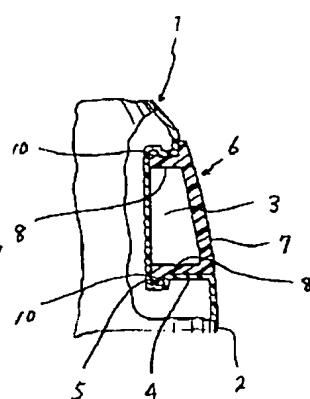
【図8】



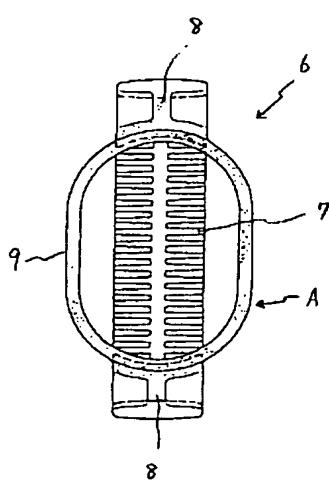
【図9】



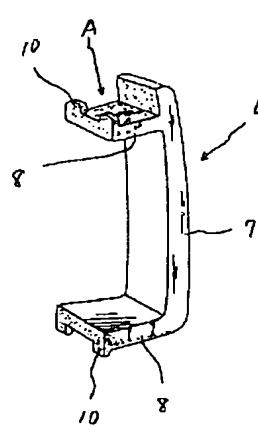
【図11】



【図10】



【図12】



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